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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/784,966	02/25/2004	Takafumi Noguchi	Q80094	8468

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EXAMINER	
GUHARAY, KARABI	
ART UNIT	**PAPER NUMBER**
2879	

DATE MAILED: 07/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/784,966	NOGUCHI, TAKAFUMI	
	Examiner	Art Unit	
	Karabi Guharay	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *RCe, filed on 3July 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3 July 2006 has been entered.

Remarks filed with RCE has been considered and entered.

Claim Objections

Claims 4-6 are objected to under 37 CFR 1.75(c), as being of improper dependent form.

Claims 4-6 depend from claim 1, and claim 1 recites total thickness is **90nm or smaller,** while claims 4-6 recites range of total thickness which is greater than 90nm.

Further it is not clear which range is the correct range.

Appropriate corrections are required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Hsu (US 6756474).

Regarding claims 1, 4, 6 & 9-10, Hsu discloses an organic light emitting diode (Fig 1), comprising a substrate (lines 42-44 of column 7), a transparent electrode (anode 110), at least two organic layers including a light emitting layer (130) and electron transporting layer (140) and a back electrode (cathode 150, lines 4-12 of column 5), wherein a thickness of the electron transporting layer is 60nm or greater (thickness lies between 20nm-80nm), and a total thickness of the electron transporting layer and the light emitting layer is 90nm or smaller (total thickness lies between 30nm-160nm, lines 50-54 of column 7).

Regarding claims 2-3, Hsu discloses that the thickness of the transparent electrode lines in the range from 50nm-500nm (line 49 of column 7).

Regarding claim 5, Hsu discloses that the total thickness of the at least two organic layers is 90 nm-300 nm ((total thickness lies between 30nm-160nm, lines 50-54 of column 7).

Regarding claims 7-8, Hsu discloses that the total thickness of the transparent electrode and the at least two organic layers is between 250 nm-400 nm and 250 nm-350nm (total thickness lies between 80nm- 660nm, see lines 49-54 of column 7).

Regarding claim 11, Hsu discloses that the thickness of the light-emitting layer is 10 to 20 nm (line 51 of column 7).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu as applied to claim 1 above, and further in view of Fukuda (US 6541130).

Regarding claims 12-13, Hsu discloses all the limitations of claims 12-13 except for at lest two light emitting layers different in luminescence waveform in a side-by-side configuration since Hsu discloses a single color OLED.

However, Fukuda teaches that in order to produce a multicolor display using organic electroluminescence, at least two light emitting layers (43B, 43G, 43R of Fig 2) are arranged side-by-side configuration emitting light of different wave length (see Fig 2).

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use at least two different light emitting layer arranged side-by-side, as taught by Fukuda, in the device of Hsu, in order to have a multicolor display.

Response to Arguments

Applicant's arguments filed 7/3/2006 have been fully considered but they are not persuasive.

(1) in response applicant's argument about Federal circuit case of *Atofina Vs Great lakes Chemical Corporations; which is concerned about prior art having broader range*

which overlaps the claimed narrower range, examiner respectfully presents that in this particular case, claimed thickness range of electron transporting layer is 60nm or greater, which is in fact broader range than the prior art range of 20-80nm. Thus in case of electron transporting layer thickness, Atofina case is not applicable.

Further in case of total thickness, Hsu discloses specifically that the preferred total thickness of electron transporting layer and the light emitting layer in the range of 30nm-160nm, among the broader possible range of 5-200nm.

The prior art thickness overlaps the claimed total thickness, and the preferred range of 30-160 nm is the specific range, and the instant application claims various ranges of total thickness such as 90 nm-300nm, or 150-250nm, thus does not specify narrower range, and in such case Federal circuit case of *Atofina* does not apply also.

Further, examiner does not understand applicant's argument that " that example 3 is the only working example", since prior art teaches thicknesses of the various layers in other cases also.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karabi Guharay whose telephone number is 571-272-2452. The examiner can normally be reached on Monday-Friday 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on 571-272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KGuharay

Karabi Guharay
Primary Examiner
Art Unit 2879
7/18/06